

IN THE CLAIMS:

1-14. (cancelled)

15. (withdrawn) A method for producing a high loft, low density nonwoven web, the nonwoven web having x, y and z dimensions, with the x dimension being a machine direction, the y dimension being a cross machine direction and the z dimension being a loft direction, comprising:

a) forming a group of crimpable, substantially continuous, spunbond, bicomponent fibers of A/B side by side morphology in an unheated FDU and depositing the group of fibers onto a forming wire;

b) first heating the fibers at a time and a temperature sufficient to induce a relaxation of molecular orientation of one side of the fiber;

c) after said first heating, cooling the group of fibers below the temperature where the fibers will bond to each other and thereby inducing the fibers to crimp; and

d) controlling or minimizing the forces which tend to impede crimping of the fibers when performing steps b) and c) whereby the fibers are allowed to crimp in the z-direction.

16. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 15, further comprising: reheating the group of fibers to cause the fibers to bond to each other to form a stable high loft, low density nonwoven web.

17. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 15, further comprising: reheating the group of fibers under heating or air flow conditions, or both, sufficient to maintain an original loft height of the group of fibers after steps b) and c).

18. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 17, wherein the reheating heat is less than or equal to about 450 degrees F.

19. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 17, wherein there is no induced air movement during the reheating.

20. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 15, wherein the group of fibers is carried through the reheating zone at a velocity of greater than or equal to about 25 fpm.

21. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 15, further comprising: reheating the group of fibers under heating or air flow conditions, or both, sufficient to reduce an original loft height of the group of fibers after steps b) and c).

22. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 15, further comprising: nonfunctionally bonding the group of fibers before the first heating.

23. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 15, further comprising: applying a vacuum under the wire where the fibers are deposited on the forming wire.

24. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 23, further comprising: removing or reducing the vacuum under the forming wire after the first heating.

25. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 15, further comprising: removing or reducing blowing air during steps b) and c).

26. (withdrawn) The method for producing a high loft, low density nonwoven web according to Claim 15, further comprising: applying the fibers to the forming wire with a high degree of machine direction orientation.

27. (currently amended) An acoustic insulation material comprising the high loft, low density nonwoven web made according to the process comprising:

- a) forming a group of crimpable, substantially continuous, spunbond, bicomponent fibers of A/B side by side morphology in an unheated FDU and depositing the group of fibers onto a forming wire;
- b) first heating the fibers at a time and a temperature sufficient to induce a relaxation of molecular orientation of one side of the fiber;
- c) after said first heating, cooling the group of fibers below the temperature where the fibers will bond to each other and thereby inducing the fibers to crimp; and
- d) controlling or minimizing the forces which tend to impede crimping of the fibers when performing steps b) and c) whereby the fibers are allowed to crimp in the z-direction while in a relaxed state.

28-30. (cancelled)

31. (currently amended) A thermal insulation material comprising the high loft, low density nonwoven web made according to the process comprising:

- a) forming a group of crimpable, substantially continuous, spunbond, bicomponent fibers of A/B side by side morphology in an unheated FDU and depositing the group of fibers onto a forming wire;
- b) first heating the fibers at a time and a temperature sufficient to induce a relaxation of molecular orientation of one side of the fiber;
- c) after said first heating, cooling the group of fibers below the temperature where the fibers will bond to each other and thereby inducing the fibers to crimp; and
- d) controlling or minimizing the forces which tend to impede crimping of the fibers when performing steps b) and c) whereby the fibers are allowed to crimp in the z-

direction while in a relaxed state.

32. (previously presented) The acoustic insulation material according to Claim 27, further comprising particulates contained within the web.

33. (previously presented) The thermal insulation material according to Claim 31, further comprising particulates contained within the web.

34. (cancelled)

35. (currently amended) A high loft, low density nonwoven web, made according to the process comprising:

a) forming a group of crimpable, substantially continuous, spunbond, bicomponent fibers of A/B side by side morphology in an unheated FDU and depositing the group of fibers onto a forming wire;

b) first heating the fibers at a time and a temperature sufficient to induce a relaxation of molecular orientation of one side of the fiber;

c) after said first heating, cooling the group of fibers below the temperature where the fibers will bond to each other and thereby inducing the fibers to crimp; and

d) controlling or minimizing the forces which tend to impede crimping of the fibers when performing steps b) and c) whereby the fibers are allowed to crimp in the z-
direction while in a relaxed state.

36. (previously presented) The high loft, low density nonwoven web

according to Claim 35, wherein a basis weight of the web is between about 0.3 osy and about 25 osy.

37. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein a density of the web is between about 0.002 g/cc and about 0.05 g/cc.

38. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the loft is between about 0.02 inches and about 1.50 inches.

39. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the basis weight is about 0.5 osy and the loft is about 0.03 to about 0.3 inches and the density if from about 0.022 g/cc to about 0.002 g/cc.

40. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the basis weight is about 3.0 osy and the loft is from about 0.1 inches to about 1.5 inches and the density is from about 0.04 g/cc to about 0.003 g/cc.

41. (canceled)

42. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the fibers exhibit z-direction buckling at a substantially constant frequency.

43. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the fibers comprise polypropylene and polyethylene polymers.

44. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the fibers comprise polymers selected from the group including PET, Copoly-PP+3%PE, PLA, PTT, Nylon, and PBT.

45. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the fibers comprise cross sectional shapes selected from the group including Pentaloble, Tri-T, Hollow, Ribbon, X, Y, H, and asymmetric.

46. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the fibers are integrally bonded to each other in the web.

47. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the fibers are randomly crimped to produce a lofted material with heterogeneous fiber orientation, including substantially heterogeneous z-direction orientation and shingled layers of buckled Z-orientation zones to produce loft of the web.

48. (previously presented) The high loft, low density nonwoven web according to Claim 35, wherein the fibers are randomly crimped to produce a lofted material with heterogeneous fiber orientation, including heterogeneous z-direction orientation to produce loft of the web, and irregularly spaced openings between the crimped fibers.

49. (currently amended) A high loft, low density nonwoven web, ~~made according to the process of Claim 35, wherein the process further comprising~~comprises: reheating the group of fibers to cause the fibers to bond to each other to form a stable high loft, low density nonwoven web.

50. (currently amended) A high loft, low density nonwoven web, according to Claim 35, wherein the process further comprises:
~~A high loft, low density nonwoven web, made according to the process of Claim 35, the process further comprising:~~
reheating the group of fibers under heating or air flow conditions, or both, sufficient to maintain an original loft height of the group of fibers after steps b) and c).

51. (currently amended) A high loft, low density nonwoven web, ~~made according to the process of Claim 50, wherein the reheating heat is less than or equal to about 450 degrees F.~~

52. (currently amended) A high loft, low density nonwoven web, according to ~~made according to the process of Claim 50, wherein there is no induced air movement during the reheating.~~

53. (currently amended) A high loft, low density nonwoven web, according to ~~made according to the process of Claim 35, wherein the group of fibers is carried through the reheating zone at a velocity of greater than or equal to about 25 fpm.~~

54. (currently amended) A high loft, low density nonwoven web, according to made according to the process of Claim 35, wherein the process further comprises:~~the process further comprising:~~
reheating the group of fibers under heating or air flow conditions, or both, sufficient to reduce an original loft height of the group of fibers after steps b) and c).

55. (currently amended) A high loft, low density nonwoven web, according to made according to the process of Claim 35, wherein the process further comprises:~~the process further comprising:~~
nonfunctionally bonding the group of fibers before the first heating.

56. (currently amended) A high loft, low density nonwoven web, according to made according to the process of Claim 35, wherein the process further comprises:~~the process further comprising:~~
applying a vacuum under the wire where the fibers are deposited on the forming wire.

57. (currently amended) A high loft, low density nonwoven web, according to made according to the process of Claim 56, wherein the process further comprises:~~the process further comprising:~~
removing or reducing the vacuum under the forming wire after the first heating.

58. (currently amended) A high loft, low density nonwoven web, according to made according to the process of Claim 35, wherein the process further comprises:~~the process further comprising:~~

removing or reducing blowing air during steps b) and c).

59. (currently amended) A high loft, low density nonwoven web, according to ~~made according to the process of Claim 35, wherein the process further comprises:~~ the process further comprising:
applying the fibers to the forming wire with a high degree of machine direction orientation.